

**DUAL BEAD ASSAYS INCLUDING OPTICAL BIODISCS  
AND METHODS RELATING THERETO**

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Abstract of the Disclosure

A method for determining whether a target agent is present in a biological sample includes mixing magnetic capture beads, each having at least one transport probe affixed thereto, reporter beads, each bead having at least one signal probe affixed thereto, and a biological sample, under binding conditions which permit formation of a dual bead complex if the target agent is present in the sample, wherein the dual bead complex comprises the reporter bead bound to the target agent which is in turn bound to the magnetic capture bead; isolating the dual bead complex from the mixture by subjecting the mixture to a magnetic field; loading the isolate into an optical disc, the optical disc having an capture layer having affixed thereto, within a capture field, a capture agent that binds to the dual bead complex specifically; and detecting the presence of the dual bead complex in the optical disc, the presence of the dual bead complex indicating that the target agent is present in the sample.